

SN. 09/624,619

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IN THE CLAIMS*The status of the claims as presently amended is as follows:*

1-10. (Canceled)

11. (Currently Amended) A sheet processing apparatus comprising:

conveying means for conveying a sheet having a side edge extending in a conveying direction of the sheet;

sheet processing means for processing the sheet, ~~the said~~ sheet processing means being movable in a width direction, which is perpendicular to the conveying direction;

first detecting means for detecting the side edge of the sheet, said first detecting means being movable in the width direction together with said sheet processing means;

a first moving means for moving said sheet processing means and said first detecting means in the width direction; and

second detecting means provided upstream of said sheet processing means in the conveying direction, for detecting a leading edge of the sheet;

third detecting means for detecting a conveying amount by said conveying means after said second detecting means detects the leading edge of the sheet;

determining means for determining a length of the sheet in the conveying direction; and

control means for controlling said first moving means to move said sheet processing means and said first detecting means in predetermined timing and to stop said sheet processing means and said first detecting means from moving in the width direction in response to said first detecting means detecting the side edge of the sheet,

wherein said control means controls the predetermined timing in accordance with the conveying amount detected by said third detecting means and the length determined by said determining means so that said first detecting means detects the side edge of the sheet at a vicinity of a sheet processing position of the sheet at which said sheet processing means processes the sheet.

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12. (*Currently Amended*) A sheet processing apparatus according to claim 11, wherein said control means determines the predetermined timing based on ~~the~~ length of the sheet in the conveying direction of the sheet.

13. (*Previously Amended*) A sheet processing apparatus according to claim 11, wherein said sheet processing means is adapted for processing plural types of sheets of different lengths in the conveying direction of the sheets, and wherein said control means controls the predetermined timing depending on the length of each of the plural types of sheets in the conveying direction of the sheets.

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14. (*Previously Amended*) A sheet processing apparatus according to claim 13, wherein if the sheet process is carried out on a sheet of a first size or a sheet of a second size having a larger length in the conveying direction of the sheets than said sheet of the first size, said control means delays the predetermined timing for the sheet of the second size with respect to the predetermined timing for the sheet of the first size.

15. (*Previously Amended*) A sheet processing apparatus according to claim 13, wherein said control means sets the predetermined timing for each of said plural types of sheets to different values of timing according to the different lengths of said plural types of sheets in the conveying direction of the sheets such that the detection of the side edge of each of the sheets is always carried out at the location close to said sheet processing position.

16-18. (*Canceled*)

19. (*Previously Amended*) A sheet processing apparatus according to claim 11, wherein said control means causes said sheet processing means to process the sheet without stopping the conveyance of the sheet by said conveying means.

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20. *(Original)* A sheet processing apparatus according to claim 11, wherein said sheet processing means includes punching process means for executing a punching process on the sheet.

21. *(Previously Amended)* A sheet processing apparatus according to claim 11, wherein said sheet processing means processes the sheet without executing a sheet aligning process on the sheet.

22. *(Previously Amended)* A sheet processing apparatus according to claim 11, wherein said sheet processing apparatus is adapted for connecting to an image forming apparatus for forming images on a sheet, and wherein said sheet processing means processes the sheet supplied from said image forming apparatus.

23-25. *(Canceled)*

26. *(Currently Amended)* A sheet processing apparatus according to claim 11, wherein said sheet processing means processes the sheet at a vicinity of a trailing end of the sheet, and wherein said control means controls the predetermined timing so that said first detecting means detects the side edge of the sheet at a vicinity of a location at which said sheet processing means processes the sheet.

27-28. *(Canceled)*

29. *(Previously Added)* A sheet processing apparatus according to claim 11, wherein said sheet processing means punches holes through the sheet.

30. *(Previously Added)* A sheet processing apparatus according to claim 29, wherein the holes are aligned along a direction that is perpendicular to the conveying direction of the sheet.

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31-32. (Canceled)

33. (Currently Amended) A sheet processing apparatus comprising:

a conveyor that conveys a sheet having a side edge extending in a conveying direction of the sheet;

a sheet processor ~~for processing that processes~~ the sheet, said sheet processor being movable in a width direction, which is perpendicular to the conveying direction;

a first detector that detects the side edge of the sheet, said first detector being movable in the width direction together with said sheet processor;

a first moving device that moves said sheet processor and said first detector in the width direction; ~~and~~

a second detector that detects a leading edge of the sheet, said second detector being provided upstream of said sheet processor in the conveying direction;

a third detector that detects a conveying amount by said conveyor after said second detector detects the leading edge of the sheet;

a determining device that determines a length of the sheet in the conveying direction; and

a controller that controls said first moving device to move said sheet processor and said first detector in predetermined timing and to stop said sheet processor and said first detector from moving in the width direction in response to said first detector detecting the side edge of the sheet,

wherein said controller controls the predetermined timing in accordance with the conveying amount detected by said third detector and the length determined by said determining device so that said first detector detects the side edge of the sheet at a vicinity of a sheet processing position of the sheet at which said sheet processor processes the sheet.

34. (Currently Amended) A sheet processing apparatus according to claim 33, wherein said sheet processing means ~~or~~ punches holes through the sheet.

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35. (*Previously Added*) A sheet processing apparatus according to claim 34, wherein the holes are aligned along a direction that is perpendicular to the conveying direction of the sheet.

36. (*Currently Amended*) A sheet processing apparatus according to claim 11, wherein said first detecting means comprises a light emitting part and a light receiving part to detect the side edge of the sheet.

37. (*Currently Amended*) A sheet processing apparatus according to claim 11, further including second moving means for moving said first detecting means in the width direction before conveying the sheet.

CI 38. (*Currently Amended*) A sheet processing apparatus according to claim 33, wherein said first detector comprises a light emitting part and a light receiving part to detect the side edge of the sheet.

39. (*Currently Amended*) A sheet processing apparatus according to claim 33, further including a second moving device that moves said first detector in the width direction before conveying the sheet.

40. (*New*) A sheet processing apparatus comprising:

conveying means for conveying a sheet having a side edge extending in a conveying direction of the sheet;

sheet processing means for processing the sheet, said sheet processing means being movable in a width direction, which is perpendicular to the conveying direction;

first detecting means for detecting the side edge of the sheet, said first detecting means being movable in the width direction together with said sheet processing means;

moving means for moving said sheet processing means and said first detecting means in the width direction;

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second detecting means provided upstream of said sheet processing means in the conveying direction, for detecting a leading edge of the sheet;

third detecting means for detecting a conveying amount by said conveying means after said second detecting means detects the leading edge of the sheet;

determining means for determining a length of the sheet in the conveying direction; and

control means for controlling said moving means to move said sheet processing means and said first detecting means in predetermined timing and to stop said sheet processing means and said first detecting means from moving in the width direction in response to said first detecting means detecting the side edge of the sheet,

wherein said control means controls the predetermined timing in accordance with the conveying amount detected by said third detecting means and the length determined by said determining means so that said first detecting means detects the side edge of the sheet at a vicinity of a sheet processing position of the sheet at which said sheet processing means processes the sheet.

41. (New) A sheet processing apparatus comprising:

a conveyor that conveys a sheet having a side edge extending in a conveying direction of the sheet;

a sheet processor that processes the sheet, said sheet processor being movable in a width direction, which is perpendicular to the conveying direction;

a first detector that detects the side edge of the sheet, said first detector being movable in the width direction together with said sheet processor;

a moving device that moves said sheet processor and said first detector in the width direction;

a second detector that detects a trailing edge of the sheet, said second detector being provided upstream of said sheet processor in the conveying direction;

a third detector that detects a conveying amount by said conveyor after said second detector detects the trailing edge of the sheet;

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a determining device that determines a length of the sheet in the conveying direction; and
a controller that controls said moving device to move said sheet processor and said first detector in predetermined timing and to stop said sheet processor and said first detector from moving in the width direction in response to said first detector detecting the side edge of the sheet,

wherein said controller controls the predetermined timing in accordance with the conveying amount detected by said third detector and the length determined by said determining device so that said first detector detects the side edge of the sheet at a vicinity of a sheet processing position of the sheet at which said sheet processor processes the sheet.

42. (New) A sheet processing apparatus comprising:

C1 conveying means for conveying a sheet having a side edge extending in a conveying direction of the sheet;

sheet processing means for processing the sheet, said sheet processing means being movable in a width direction, which is perpendicular to the conveying direction;

first detecting means for detecting the side edge of the sheet, said first detecting means being movable in the width direction together with said sheet processing means;

moving means for moving said sheet processing means and said first detecting means in the width direction;

second detecting means provided upstream of said sheet processing means in the conveying direction, for detecting a trailing edge of the sheet; and

control means for controlling said moving means to move said sheet processing means and said first detecting means in predetermined timing and to stop said sheet processing means and said first detecting means from moving in the width direction in response to said first detecting means detecting the side edge of the sheet,

wherein said control means controls said moving means to move said sheet processing means and said first detecting means when the trailing edge of the sheet is detected by said second detecting means so that said first detecting means detects the side edge of the sheet at a

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vicinity of a sheet processing position of the sheet at which said sheet processing means processes the sheet.

43. (New) A sheet processing apparatus comprising:

a conveyor that conveys a sheet having a side edge extending in a conveying direction of the sheet;

a sheet processor that processes the sheet, said sheet processor being movable in a width direction, which is perpendicular to the conveying direction;

a first detector that detects the side edge of the sheet, said first detector being movable in the width direction together with said sheet processor;

a moving device that moves said sheet processor and said first detector in the width direction;

a second detector that detects a trailing edge of the sheet, said second detector being provided upstream of said sheet processor in the conveying direction;

a controller that controls said moving device to move said sheet processor and said first detector and to stop said sheet processor and said first detector from moving in the width direction in response to said first detector detecting the side edge of the sheet,

wherein said controller controls said moving device to move said sheet processor and said first detector when the trailing edge of the sheet is detected by said second detector so that said first detector detects the side edge of the sheet at a vicinity of a sheet processing position of the sheet at which said sheet processor processes the sheet.